consisting of silicon, polysilicon, tungsten, titanium and their oxides, nitrides and carbides attached to the wall of a plasma CVD chamber.

As currently amended, Senoue does not anticipate or make obvious the claimed invention. Senoue is specifically directed to etching residues or polymers corresponding to fluorocarbons for etching silicon or polymer residues for etching aluminum (Senoue, column 1, lines 33-36). The fluorocarbons or polymer residues can be removed by O_2 plasma, and cannot be efficiently removed by a plasma cleaning gas or a plasma cleaning process.

During an etching process, and in particular, the etching process of Senoue, fluorocarbons or fluoropolymers are deposited on a substrate and also on a wall of an etching chamber. In contrast, during the present plasma cleaning process, reaction by products are removed. The byproducts removed include silicon, polysilicon, tungsten, titanium and their oxides, nitrides and carbides attached to the wall of the plasma CVD chamber.

Senoue does not disclose that its plasma cleaning gas can remove reaction byproducts selected from the group consisting of silicon, polysilicon, tungsten, titanium and their oxides, nitrides and carbides attached to the wall of the chamber.

Column 4, line 53 of Senoue simply discloses a CVD method for preparing a sample wherein SiO_2 layer is formed on a silicon wafer. The disclosure is completely unrelated to a plasma cleaning gas and plasma cleaning process.

With regard to Denison, the Examiner states that example VI of Denison discloses that a hexafluoroacetone gas used in conjunction with oxygen may be used to strip photoresist. However, this interpretation is incorrect. Example VI of Denison

relates to line 33 to 37 on column 4. Column 4, line 38 to column 5, line 2 of Denison relates to the whole invention not to example VI. The photoresist is usually removed by O_2 plasma. The incorporation of hexafluoroacetone to O_2 plasma not only adversely affects efficiency of removal of the photoresist, but also risks deposition of O_2 plasma. Therefore, one skilled in the art would not conclude that a hexafluoroacetone gas, used in conjunction with oxygen, could be used to strip photoresist.

Based on the foregoing discussion, Applicant respectfully submits that claims 11-18 are not anticipated by Senoue nor made obvious in view of Denison. Therefore, Applicant respectfully requests that the 35 U.S.C. § 102(b) rejection to claims 11, 12, 14-16 and 18 and the 35 U.S.C. § 103(a) rejection to claims 13 and 17 be withdrawn.

In view of the foregoing, Applicant respectfully submits that the present application is now in condition for allowance.

Respectfully submitted,

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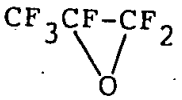
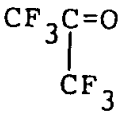
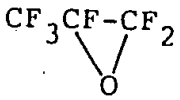
ATTACHMENT A
Amendments to the Claims

Following herewith is a complete listing of the claims, including a marked copy of the currently amended claims.

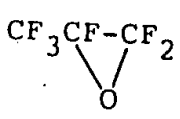
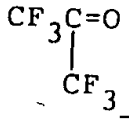
11. (Currently Amended) A chamber cleaning gas ~~for plasma CVD chambers~~ comprising at least one gas selected from the group consisting of  and 

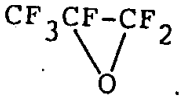
wherein the chamber cleaning gas removes reaction byproducts selected from the group consisting of silicon, polysilicon, tungsten, titanium and their oxides, nitrides and carbides attached to the wall of the chamber, and wherein the chamber is a plasma CVD chamber.

12. (Previously Added) A chamber cleaning gas according to claim 11 comprising hexafluoropropylene oxide represented by the formula  .

13. (Previously Added) A chamber cleaning gas according to claim 11 comprising CF_3COCF_3.

14. (Previously Added) A chamber cleaning gas according to claim 11 which further comprises at least one monomer gas selected from the group consisting of He, Ne, Ar, H_2, N_2 and O_2.

15. (Currently Amended) A chamber cleaning method comprising the step of treating a plasma CVD chamber of a semiconductor integrated circuit production device with at least one chamber cleaning gas selected from the group consisting of  and  to remove reaction byproducts selected from the group consisting of silicon, polysilicon, tungsten, titanium and their oxides, nitrides and carbides attached to the wall of the chamber.

16. (Previously Added) A chamber cleaning method according to claim 15 wherein the chamber cleaning gas is hexafluoropropylene oxide represented by the formula  .

17. (Previously Added) A chamber cleaning method according to claim 15 wherein the chamber cleaning gas is CF_3COCF_3.

18. (Previously Added) A chamber cleaning method according to claim 15 which further comprises at least one monomer gas selected from the group consisting of He, Ne, Ar, H_2, N_2 and O_2.